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Scientific and Technical Information Center

SEARCH REQUEST FORM

Requester's Full Name: Robert (Reba) Shiao Examiner #: 79521 Date: 5/17/06

Art Unit: 1626 Phone Number: 2-0707 Serial Number: 10/800,741

Location (Bldg/Room#): REM (Mailbox #): 5A10/5C18 Results Format Preferred (circle): PAPER DISK

****

To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:

Title of Invention: Process of absorption MG

Inventors (please provide full names): Cunbomi et al

Earliest Priority Date: _____

Search Topic:

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.

For Sequence Searches Only ***Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.***

I want search of claim 1 by step (a), (b), and (c). , also see scheme

****

STAFF USE ONLY

Searcher: Jan

Searcher Phone #: 22564

Searcher Location: _____

Date Searcher Picked Up: 6/6/06

Date Completed: 6/6/06

Searcher Prep & Review Time: 40

Online Time: +30

Type of Search

_____ NA Sequence (#)

_____ AA Sequence (#)

✓ Structure (#)

_____ Bibliographic

_____ Litigation

_____ Fulltext

_____ Other

Vendors and cost where applicable

✓ STN _____ Dialog

_____ Questel/Orbit _____ Lexis/Nexis

_____ Westlaw _____ WWW/Internet

___ In-house sequence systems

___ Commercial ___ Oligomer ___ Score/Length

___ Interference ___ SPDI ___ Encode/Transl

_____ Other (specify)

STIC Search Report
Biotech-Chem Library

STIC Database Tracking Number: 190368

TO: Rei-Tsang Shiao Location: 5a10 / 5c18 Tuesday, June 06, 2006 Art Unit: 1626 Phone: 571-272-0707 Serial Number: 10 / 800741	From: Jan Delaval Location: Biotech-Chem Library Remsen 1a51 Phone: 571-272-2504 jan.delaval@uspto.gov

Search Notes

STIC SEARCH RESULTS FEEDBACK FORM

Biotech-Chem Library

Questions about the scope or the results of the search? Contact ***the searcher or contact:***

Mary Hale, Information Branch Supervisor
571-272-2507 Remsen E01 D86

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* ☐ *Example: 1610*
- *Relevant prior art **found**, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
  (journal articles, conference proceedings, new product announcements etc.)

- *Relevant prior art **not found:***
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC/Biotech-Chem Library Remsen Bldg.

```
=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 13:08:40 ON 06 JUN 2006
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FILE COVERS 1907 - 6 Jun 2006  VOL 144 ISS 24
FILE LAST UPDATED: 5 Jun 2006  (20060605/ED)

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 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> d l63 all hitstr tot

L63  ANSWER 1 OF 4  HCAPLUS  COPYRIGHT 2006 ACS on STN
AN   2005:1004405  HCAPLUS
DN   143:286217
ED   Entered STN:  16 Sep 2005
TI   Preparation of atorvastatin
IN   Guntoori, Bhaskar Reddy; Che, Daqing; Wang,
     Fan; Zhao, Yajun; Murthy, K. S. Keshava;
     Horne, Stephen E.
PA   Apotex Pharmachem Inc., Can.
SO   U.S. Pat. Appl. Publ., 7 pp.
     CODEN: USXXCO
DT   Patent
LA   English
IC   ICM  C07D0027-36
INCL 548537000
CC   26-6 (Biomolecules and Their Synthetic Analogs)
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.         DATE
     --------------      ----   --------    --------------------    --------
PI   US 2005203302        A1    20050915    US 2004-800741          20040316 <--
     CA 2460935           AA    20050915    CA 2004-2460935         20040315 <--
     WO 2005087723        A1    20050922    WO 2005-CA368           20050311 <--
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
             LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
             NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM,
             SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
             AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
             EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
             RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
             MR, NE, SN, TD, TG
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PRAI CA 2004-2460935 A 20040315 <--

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2005203302	ICM	C07D0027-36
	INCL	548537000
	IPCI	C07D0027-36 [ICM,7]
	IPCR	C07D0207-00 [I,C*]; C07D0207-34 [I,A]; C07D0207-416 [I,A]
	NCL	548/537.000
CA 2460935	IPCI	C07D0207-34 [ICM,7]; C07D0207-00 [ICM,7,C*]
	IPCR	C07D0207-00 [I,C*]; C07D0207-34 [I,A]; C07D0207-416 [I,A]
WO 2005087723	IPCI	C07D0207-416 [ICM,7]; C07D0207-34 [ICS,7]; C07D0207-00 [ICS,7,C*]
	IPCR	C07D0207-00 [I,C*]; C07D0207-34 [I,A]; C07D0207-416 [I,A]

OS CASREACT 143:286217

AB (R)-5-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]-5-hydroxy-3-oxo-1-heptanoic acid, tert-butylester by a process using the following steps (a) reduction of 5-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]-3-oxo-1-pentanoic acid, (R)-2-hydroxy-1,2,2-triphenylethyl ester, (b) hydrolysis of (R)-5-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]-3-hydroxy-1-pentanoic acid, (R)-2-hydroxy-1,2,2-triphenylethyl ester using an alkali base in a solvent to form the acid (c) alkylation of the acid forming (R)-5-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]-5-hydroxy-3-oxo-1-heptanoic acid, tert-butylester.

ST **atorvastatin** synthesis

IT Synthons
(preparation of **atorvastatin**)

IT 40052-13-9, Mono-tert-butyl malonate
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of **atorvastatin**)

IT 134394-97-1P **864408-75-3P 864408-76-4P 864408-77-5P 864408-78-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of **atorvastatin**)

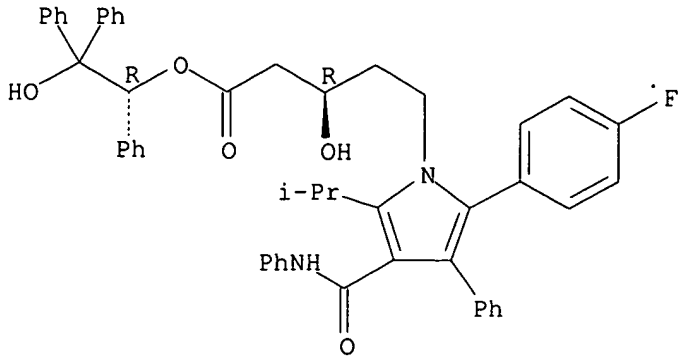
IT **95061-46-4P 134523-00-5P, Atorvastatin**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of **atorvastatin**)

IT **864408-75-3P 864408-76-4P 864408-77-5P 864408-78-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of **atorvastatin**)

RN 864408-75-3 HCAPLUS

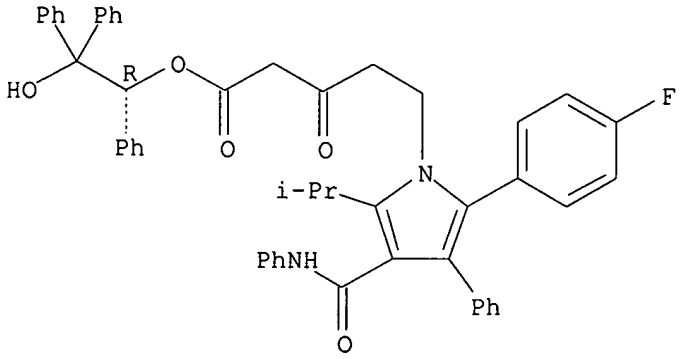
CN 1H-Pyrrole-1-pentanoic acid, 2-(4-fluorophenyl)-β-hydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, (1R)-2-hydroxy-1,2,2-triphenylethyl ester, (βR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



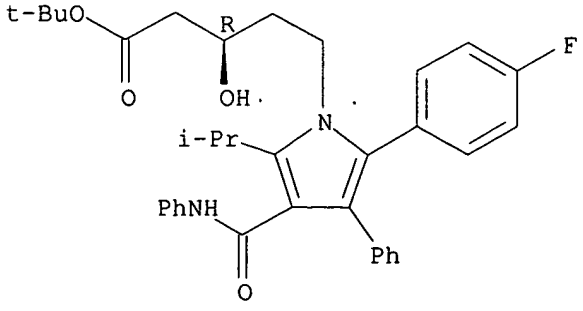
RN 864408-76-4 HCAPLUS
CN 1H-Pyrrole-1-pentanoic acid, 2-(4-fluorophenyl)-5-(1-methylethyl)-β-oxo-3-phenyl-4-[(phenylamino)carbonyl]-, (1R)-2-hydroxy-1,2,2-triphenylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 864408-77-5 HCAPLUS
CN 1H-Pyrrole-1-pentanoic acid, 2-(4-fluorophenyl)-β-hydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βR)- (9CI) (CA INDEX NAME)

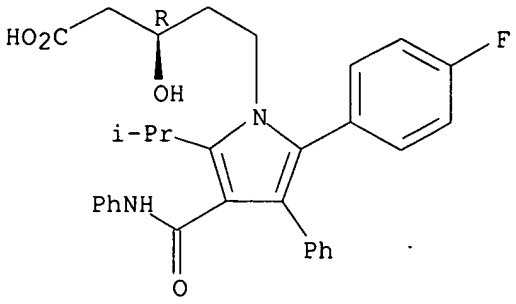
Absolute stereochemistry.



RN 864408-78-6 HCAPLUS
CN 1H-Pyrrole-1-pentanoic acid, 2-(4-fluorophenyl)-β-hydroxy-5-(1-

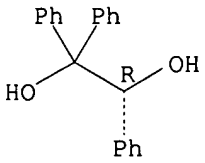
methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, (βR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



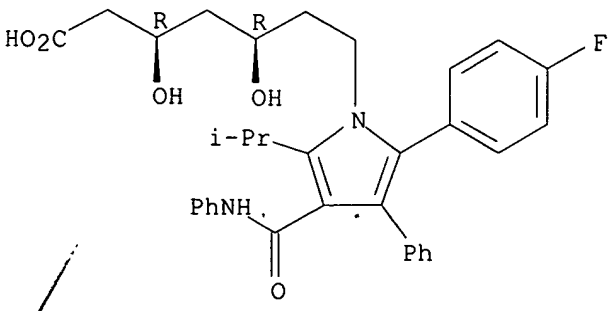
IT **95061-46-4P 134523-00-5P, Atorvastatin**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of **atorvastatin**)
RN 95061-46-4 HCAPLUS
CN 1,2-Ethanediol, 1,1,2-triphenyl-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



RN 134523-00-5 HCAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, (βR,δR)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



L63 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:672924 HCAPLUS
DN 143:153224
ED Entered STN: 29 Jul 2005
TI Process for the preparation of amorphous **atorvastatin** calcium

IN **Che, Daqing**; Kinsman, Aaron C.; **Guntoori, Bhaskar Reddy** ; **Murthy, K. S. Keshava**
PA **Apotex Pharmachem Inc., Can.**
SO U.S. Pat. Appl. Publ., 5 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM C07D0207-333
INCL 548537000
CC 26-6 (Biomolecules and Their Synthetic Analogs)
Section cross-reference(s): 63, 75
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2005165242	A1	20050728	US 2004-771383	20040205
	CA 2456430	AA	20050728	CA 2004-2456430	20040128
	WO 2005073187	A1	20050811	WO 2004-CA2161	20041220

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI CA 2004-2456430 A 20040128
US 2004-771383 A 20040205

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2005165242	ICM	C07D0207-333
	INCL	548537000
	IPCI	C07D0207-333 [ICM,7]; C07D0207-00 [ICM,7,C*]
	IPCR	A61K0031-40 [I,A]; A61K0031-40 [I,C*]; A61P0003-00 [I,C*]; A61P0003-06 [I,A]; C07D0207-00 [I,C*]; C07D0207-34 [I,A]
	NCL	548/537.000
CA 2456430	IPCI	C07D0207-34 [ICM,7]; C07D0207-00 [ICM,7,C*]; A61P0003-06 [ICS,7]; A61P0003-00 [ICS,7,C*]; A61K0031-40 [ICS,7]
WO 2005073187	IPCI	C07D0207-34 [ICM,7]; C07D0207-00 [ICM,7,C*]
	IPCR	C07D0207-00 [I,C*]; C07D0207-34 [I,A]

AB A process for the preparation of amorphous **atorvastatin** calcium comprises: (a) hydrolysis of the precursor lactone using sodium hydroxide to form **atorvastatin** sodium salt solution; (b) addition of the **atorvastatin** sodium salt solution to a calcium chloride or calcium acetate solution in the absence or presence of seeds of amorphous **atorvastatin** calcium; and (c) isolation of the resultant amorphous **atorvastatin** calcium salt by filtration and drying.

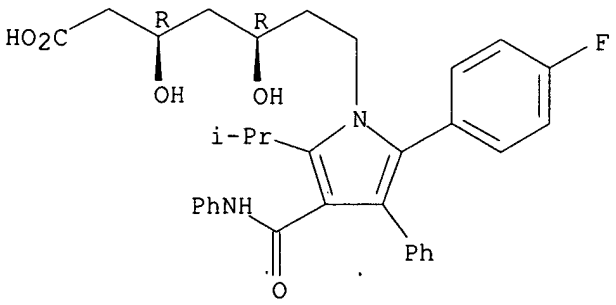
ST **atorvastatin** calcium amorphous prepn; anticholesteremic **atorvastatin** calcium amorphous prepn

IT Anticholesteremic agents
(**atorvastatin** calcium; process for the preparation of amorphous **atorvastatin** calcium)

IT Hydrolysis
(base; in a process for the preparation of amorphous **atorvastatin** calcium)

IT Drying
Filtration
(in a process for the preparation of amorphous **atorvastatin** calcium)
IT Polymorphism (crystal)
(process for the preparation of amorphous **atorvastatin** calcium)
IT Hypercholesterolemia
(process for the preparation of amorphous **atorvastatin** calcium for the treatment of)
IT **134523-01-6P**, **Atorvastatin** sodium
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in a process for the preparation of amorphous **atorvastatin** calcium)
IT **67-56-1**, Methanol, uses **7732-18-5**, Water, uses
RL: NUU (Other use, unclassified); USES (Uses)
(in a process for the preparation of amorphous **atorvastatin** calcium)
IT 62-54-4, Calcium acetate 10043-52-4, Calcium chloride, reactions 125995-03-1, **Atorvastatin** lactone
RL: RCT (Reactant); RACT (Reactant or reagent)
(in a process for the preparation of amorphous **atorvastatin** calcium)
IT **134523-03-8P**, **Atorvastatin** calcium
RL: IMF (Industrial manufacture); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(process for the preparation of amorphous **atorvastatin** calcium)
IT **134523-01-6P**, **Atorvastatin** sodium
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in a process for the preparation of amorphous **atorvastatin** calcium)
RN 134523-01-6 HCAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, monosodium salt, (βR,δR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **67-56-1**, Methanol, uses **7732-18-5**, Water, uses
RL: NUU (Other use, unclassified); USES (Uses)
(in a process for the preparation of amorphous **atorvastatin** calcium)

RN 67-56-1 HCAPLUS
CN Methanol (8CI, 9CI) (CA INDEX NAME)

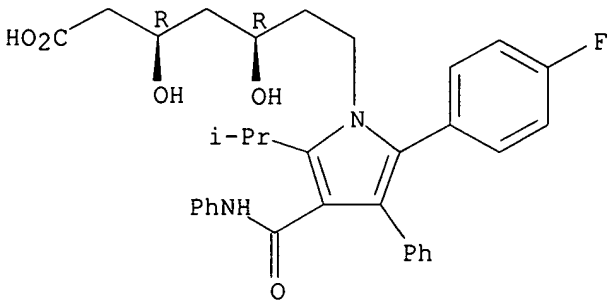
H_3C-OH

RN 7732-18-5 HCAPLUS
CN Water (8CI, 9CI) (CA INDEX NAME)

H_2O

IT **134523-03-8P, Atorvastatin** calcium
RL: IMF (Industrial manufacture); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(process for the preparation of amorphous **atorvastatin** calcium)
RN 134523-03-8 HCAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, calcium salt (2:1), (βR,δR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



●1/2 Ca

L63 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1999:138076 HCAPLUS
DN 130:267298
ED Entered STN: 04 Mar 1999
TI **Atorvastatin**, an HMG-CoA reductase inhibitor and effective lipid-regulating. Part II. Synthesis of side chain-labeled [14C] **atorvastatin**
AU Lee, Helen T.; Woo, Peter W. K.
CS Division of Warner-Lambert Company, Parke-Davis Pharmaceutical Research, Ann Arbor, MI, 48105, USA
SO Journal of Labelled Compounds & Radiopharmaceuticals (1999), 42(2), 129-133
CODEN: JLCRD4; ISSN: 0362-4803
PB John Wiley & Sons Ltd.
DT Journal
LA English
CC 27-10 (Heterocyclic Compounds (One Hetero Atom))

AB [14C]**Atorvastatin** was synthesized in a ten-step sequence with an overall yield of 5.7%. The label was introduced as sodium [1-14C]acetate, which was converted via the acid chloride to the (S)-2-hydroxy-1,2,2-triphenylethyl ester. Chiral condensation of the ester with an aldehyde gave a chiral ester intermediate with a yield of about 70%. Following transesterification of the ester intermediate to a Me ester and condensation with tert-Bu lithioacetate to give a (R)-β-ketoester, a second chiral center was generated by reduction of the hydroxy ketone, giving a (R,R)-dihydroxy ester, which was then converted via the acid to a lactone. The desired pure diastereomer, obtained from the mother liquor during crystallization, was then converted to the corresponding calcium salt (2:1) (**atorvastatin**).

ST **atorvastatin** carbon 14 labeled prepn

IT 88-95-9, 1,2-Benzenedicarbonyl dichloride 540-88-5, tert-Butyl acetate 993-04-4 **108998-83-0** 110862-46-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of side chain-labeled [14C]**atorvastatin**)

IT 676-77-7P, Acetyl-1-14C chloride 222406-66-8P **222406-69-1P** 222406-71-5P 222406-73-7P 222406-75-9P 222406-80-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of side chain-labeled [14C]**atorvastatin**)

IT **222406-78-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of side chain-labeled [14C]**atorvastatin**)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

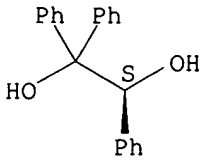
(1) Bertolini, S; Atherosclerosis 1997, V130, P191 HCAPLUS
(2) Braun, M; Tet Letters 1984, V25, P5031 HCAPLUS
(3) Dart, A; Am J Cardiol 1997, V80, P39 HCAPLUS
(4) Marais, A; Arteriosclerosis Thrombosis and Vascular Biology 1997, V17, P1527 HCAPLUS
(5) Michniewicz, B; Sixth North American ISSX Meeting Abstract 93 1994
(6) Roth, B; US 4681893 1987 HCAPLUS
(7) Roth, B; J Med Chem 1991, V34, P357 HCAPLUS
(8) Woo, P; preceding paper

IT **108998-83-0**
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of side chain-labeled [14C]**atorvastatin**)

RN 108998-83-0 HCAPLUS

CN 1,2-Ethanediol, 1,1,2-triphenyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



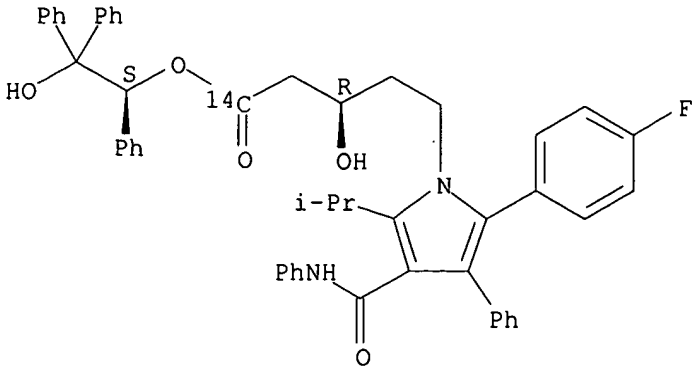
IT **222406-69-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of side chain-labeled [14C]**atorvastatin**)

RN 222406-69-1 HCAPLUS

CN 1H-Pyrrole-1-pentanoic-carboxy-14C acid, 2-(4-fluorophenyl)-β-hydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-,

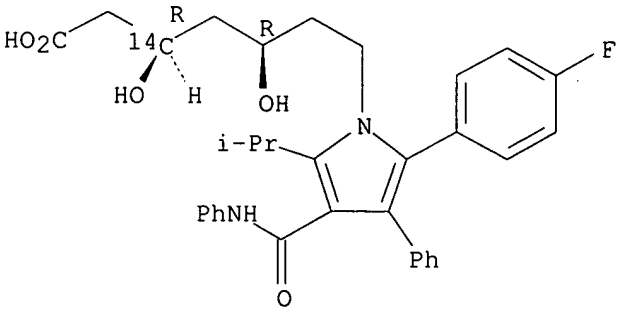
(1S)-2-hydroxy-1,2,2-triphenylethyl ester, (βR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **222406-78-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of side chain-labeled [14C]**atorvastatin**)
RN 222406-78-2 HCAPLUS
CN 1H-Pyrrole-1-heptanoic-β-14C acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, calcium salt (2:1), (βR,δR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



●1/2 Ca

L63 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1991:429107 HCAPLUS
DN 115:29107
ED Entered STN: 27 Jul 1991
TI Preparation of anticholesteremic (R-(R*R*))-2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl-3-phenyl-4((phenylamino)carbonyl)-1H-pyrrolyl-1-heptanoic acid, its lactone form and salts thereof
IN Roth, Bruce David
PA Warner-Lambert Co., USA
SO Eur. Pat. Appl., 18 pp.
CODEN: EPXXDW
DT Patent

LA English
IC ICM C07D0207-327
ICS C07D0405-00; A61K0031-40
CC 27-10 (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 1
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 409281	A1	19910123	EP 1990-113986	19900720
	EP 409281	B1	20011031		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	FI 94339	B	19950515	FI 1990-3614	19900718
	FI 94339	C	19950825		
	CA 2021546	AA	19910122	CA 1990-2021546	19900719
	CA 2021546	C	19970429		
	NO 9003251	A	19910122	NO 1990-3251	19900720
	NO 174709	B	19940314		
	NO 174709	C	19940622		
	JP 03058967	A2	19910314	JP 1990-190935	19900720
	JP 3506336	B2	20040315		
	ZA 9005742	A	19920325	ZA 1990-5742	19900720
	KR 167101	B1	19990115	KR 1990-11032	19900720
	EP 1061073	A1	20001220	EP 2000-115656	19900720
	EP 1061073	B1	20040630		
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	AT 207896	E	20011115	AT 1990-113986	19900720
	ES 2167306	T3	20020516	ES 1990-113986	19900720
	JP 2002234871	A2	20020823	JP 2001-399022	19900720
	JP 2003201236	A2	20030718	JP 2002-365972	19900720
	AT 270274	E	20040715	AT 2000-115656	19900720
	ES 2153332	T3	20050301	ES 2000-115656	19900720
	AU 9059724	A1	19910124	AU 1990-59724	19900723
	AU 628198	B2	19920910		
	US 5273995	A	19931228	US 1991-660976	19910226
	NO 9302075	A	19910122	NO 1993-2075	19930607
	NO 176096	B	19941024		
	NO 176096	C	19950201		
PRAI	US 1989-384187	A	19890721		
	EP 1990-113986	A3	19900720		
	JP 1990-190935	A3	19900720		
	NO 1990-3251	A1	19900720		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 409281	ICM	C07D0207-327
	ICS	C07D0405-00; A61K0031-40
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FI 94339	IPCI	C07D0207-34 [ICM,6]; C07D0207-00 [ICM,6,C*]
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JP 03058967	IPCI	C07D0207-34 [ICM,5]; C07D0207-00 [ICM,5,C*]; A61K0031-40 [ICS,5]; C07D0405-06 [ICS,5]; C07D0405-00 [ICS,5,C*]
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EP 1061073	IPCI	C07D0207-34 [ICM,6]; C07D0207-00 [ICM,6,C*]; C07D0405-06 [ICS,6]; C07D0405-00 [ICS,6,C*]; A61K0031-40 [ICS,6]
	ECLA	C07D207/34; C07D405/06+309+207
AT 207896	IPCI	C07D0207-327 [ICM,7]; C07D0207-00 [ICM,7,C*]; C07D0405-00 [ICS,7]; A61K0031-40 [ICS,7]
ES 2167306	IPCI	C07D0207-327 [ICM,7]; C07D0207-00 [ICM,7,C*]; C07D0405-00 [ICS,7]; A61K0031-40 [ICS,7]
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JP 2002234871	IPCI	C07D0207-34 [ICM,7]; C07D0207-00 [ICM,7,C*]; A61K0031-40 [ICS,7]; A61P0003-06 [ICS,7]; A61P0003-00 [ICS,7,C*]; A61P0043-00 [ICS,7]; C07D0405-06 [ICS,7]; C07D0405-00 [ICS,7,C*]; C07M0007-00 [ICS,7]
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ES 2153332	IPCI	C07D0207-34 [ICM,7]; C07D0207-00 [ICM,7,C*]; C07D0405-06 [ICS,7]; C07D0405-00 [ICS,7,C*]; A61K0031-40 [ICS,7]
AU 9059724	IPCI	C07D0207-34 [ICM,5]; C07D0207-00 [ICM,5,C*]; C07D0405-06 [ICS,5]; C07D0405-00 [ICS,5,C*]; A61K0031-40 [ICS,5]
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US 5273995	IPCI	A61K0031-40 [ICM,5]; C07D0405-06 [ICS,5]; C07D0405-00 [ICS,5,C*]
	IPCR	C07D0207-00 [I,C*]; C07D0207-34 [I,A]; C07D0405-00 [I,C*]; C07D0405-06 [I,A]
	NCL	514/422.000; 514/423.000; 548/517.000; 548/537.000
NO 9302075	IPCI	C07D0207-34 [ICM,5]; C07D0207-00 [ICM,5,C*]
	IPCR	C07D [I,S]; C07D0207-00 [I,C*]; C07D0207-34 [I,A]

GI

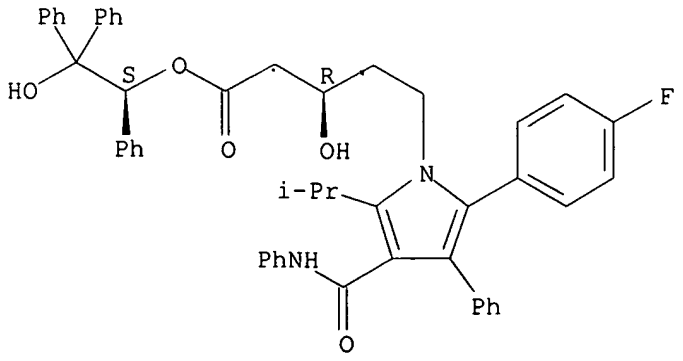
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Title compound, lactone derivative I, and pharmaceutically acceptable salts thereof were prepared Treatment of hydroxyketoester II (preparation given) with B(Et)3, NaBH4 in MeOH, H2O2, and NaOH gave the corresponding Na dihydroxyheptanoate derivative which was converted to the acid. This acid was taken up in toluene and refluxed using a Dean-Stark trap for 20 min to give I. II exhibited IC50 of 0.0044 μM/L against cholesterol biosynthesis.

ST pyrrolyldihydroxyheptanoate prepn anticholesteremic

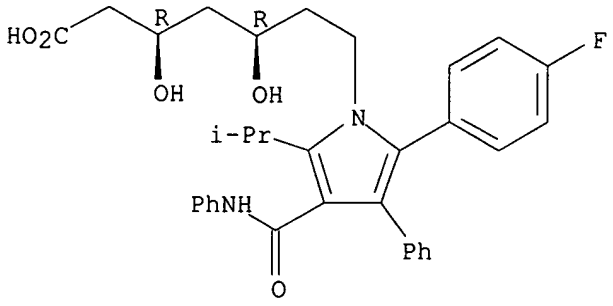
IT Anticholesteremics and Hypolipemics
(pyrrolyldihydroxyheptanoates)
IT 57-88-5, Cholest-5-en-3-ol (3β)-, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(inhibitors of biosynthesis of, pyrrole derivs. as)
IT **134394-96-0P** 134394-97-1P 134394-98-2P 134395-00-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, in preparation of anticholesteremic)
IT 7440-66-6DP, Zinc, **Atorvastatin** complex 125995-03-1P
134523-00-5DP, Atorvastatin, magnesium and zinc complexes **134523-00-5P 134523-01-6P**
134523-02-7P 134523-03-8P 134523-04-9P 134523-07-2P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of, as anticholesteremic)
IT 7439-95-4DP, Magnesium, **Atorvastatin** complex
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(pyrrolyldihydroxyheptanoates)
IT 540-88-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in preparation of anticholesteremic)
IT 95061-51-1 110862-46-9 134394-95-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in preparation of anticholesteremic agent)
IT 3886-69-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(resolving agent, for pyrrolyldihydroxyheptanoate anticholesteremic agent)
IT 6284-40-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(salt formation by, of pyrrolyldihydroxyheptanoic acid derivative)
IT **134394-96-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, in preparation of anticholesteremic)
RN 134394-96-0 HCAPLUS
CN 1H-Pyrrole-1-pentanoic acid, 2-(4-fluorophenyl)-β-hydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 2-hydroxy-1,2,2-triphenylethyl ester, [S-(R*,S*)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



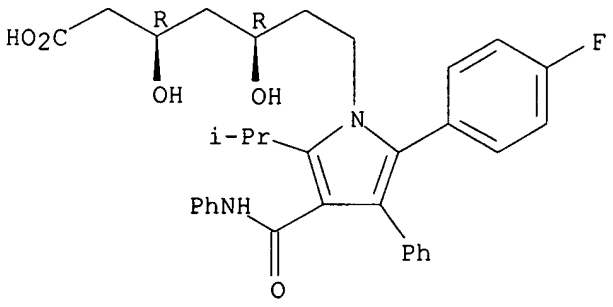
IT **134523-00-5DP, Atorvastatin,** magnesium and zinc complexes **134523-00-5P 134523-01-6P 134523-02-7P 134523-03-8P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of, as anticholesteremic)
RN 134523-00-5 HCAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, (βR,δR)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



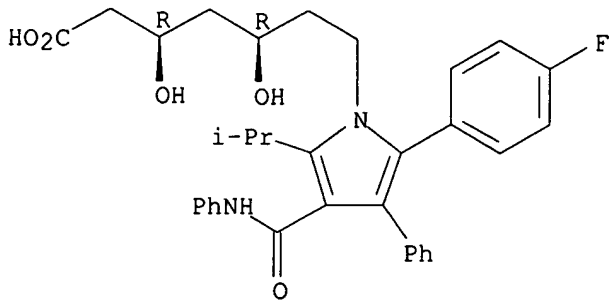
RN 134523-00-5 HCAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, (βR,δR)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 134523-01-6 HCAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, monosodium salt, (βR,δR)- (9CI) (CA INDEX NAME)

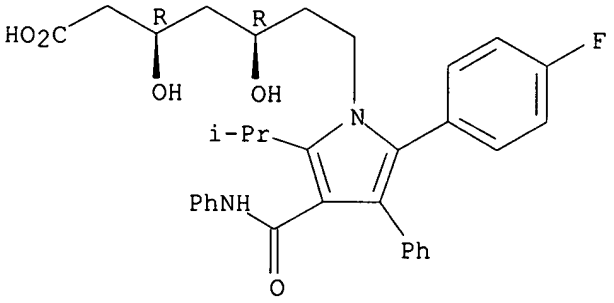
Absolute stereochemistry.



● Na

RN 134523-02-7 HCAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, monopotassium salt, (βR,δR)- (9CI) (CA INDEX NAME)

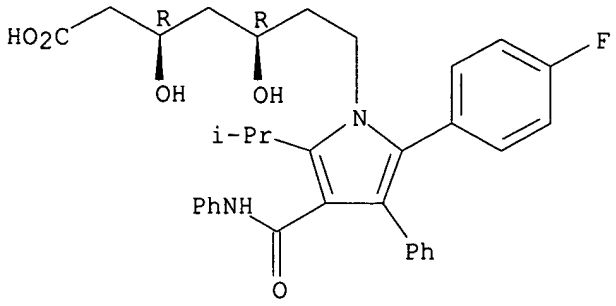
Absolute stereochemistry.



● K

RN 134523-03-8 HCAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, calcium salt (2:1), (βR,δR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



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		E BRANTFORD/PA,CS
L3	65	S E3-E11
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L4	13	S E4,E5
		E BHASKAR/AU
L5	7	S E39
L6	11	S E97
		E REDDY/AU
		E REDDY B/AU
L7	9	S E3
L8	8	S E21-E23
		E REDDY BHASKAR/AU
L9	1	S E3
		E REDDY G/AU
L10	117	S E3,E5,E6,E12
L11	2	S E13
		E REDDY GUN/AU
L12	2	S E10
		E CHE/AU
		E CHE D/AU
L13	37	S E3-E9,E16
		E CHE N/AU
L14	2	S E7
		E DA/AU
		E DAQING/AU
		E WANG/AU
L15	12	S E3
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L16	3288	S E3-E29 OR WANG FAN?/AU
		E ZHAO/AU

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L17         1669 S E3-E25,E34
                E ZHAO YAJUN/AU
L18           20 S E3
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                E YAJUN/AU
                E WANG N/AU
                E WANG NAME/AU
L19           70 S E4
                E MURTHY/AU
                E MURTHY K/AU
L20           16 S E3
L21          129 S E41,E43-E45
L22           20 S E98-E100
                E HORNE S/AU
L23           29 S E3,E6
L24           21 S E20
L25           13 S E22,E23
L26            1 S E25
                SEL RN L1

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L29            3 S E3 AND 46.150.18/RID AND NC4/ES AND 7/NR
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L30            1 S E3 AND 46.150.18/RID AND NC4/ES AND 4/NR
L31            1 S L27 AND C7H12O4
                E C31H31FN2O4/MF
L32            2 S E3 AND 46.150.18/RID AND NC4/ES AND 4/NR
L33            1 S L32 NOT FORMYL
                E C20H18O2/MF
L34            1 S E3 AND L27
L35            5 S E3 AND 1 2 ETHANEDIOL AND TRIPHENYL
L36            5 S L34,L35
                E C33H35FN2O5/MF
L37           21 S E3 AND 46.150.18/RID AND NC4/ES AND 4/NR
L38            2 S L37 AND ATORVASTATIN
L39           19 S L37 NOT L38
                SEL RN 1-3 14-16 18 19
L40           11 S L39 NOT E1-E8
L41           13 S L38,L40
                SEL RN
L42           63 S E9-E21/CRN
L43           46 S L42 NOT (MXS OR PMS OR IDS)/CI
L44           25 S L43 NOT COMPD
L45           20 S L44 NOT (LYSINE OR ARGININE OR ORNITHINE)
L46           33 S L41,L45

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L49            1 S L33
L50            1 S L30
L51         2566 S L46 OR ATORVASTATIN?
L52            3 S L47-L50 AND L51
L53            2 S L36 AND L52
L54            3 S L52,L53
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L60             1 S WATER/CN
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L63             4 S L57,L62

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